

REMARKS

This is intended as a full and complete response to the Final Office Action dated May 4, 2006, having a shortened statutory period for response set to expire on August 4, 2006. In view of the following amendment and discussion, the Applicants believe all claims are in allowable form.

ELECTION/RESTRICTION

The Applicants acknowledge the restriction of claims 23-27. Claims 23-27 are cancelled without prejudice. The Applicants reserve the right to file divisional/continuation applications to prosecute the non-elected subject matter.

CLAIM REJECTIONS

A. 35 U.S.C. §102 Claims 1-2, 4-6, 8-16 and 21-22

Claims 1-2, 4-6, 8-16 and 21-22 stand rejected under 35 U.S.C. §102(b) as being anticipated or under 35 U.S.C. §103(a) as unpatentable over United States Patent No. 6,159,297 issued December 12, 2000 to *Herchen, et al.* (hereinafter referred to as "*Herchen*"). In response, the Applicants have amended claim 16 to more clearly recite aspects of the invention.

Independent claims 1, 5 and 16 recite elements not taught or suggested by *Herchen*. *Herchen* teaches using an interferometer to determine a thickness of a transparent layer on a substrate. The interferometer scans across the substrate surface and find a particular feature, such as a via or a deep narrow trench, or a suitably flat and/or transparent point to which to make an endpoint measurement. (Col. 9, Lines 15-25; Col 10, Lines 25-35). Thus, *Herchen* teaches using an interferometer to measure the thickness difference of a particular feature being formed on a transparent layer, thereby determining an endpoint for an etch process.

Herchen does not teach or suggest an endpoint detection system configured to detect one or more test patterns disposed on a peripheral region of a photomask substrate, as claimed by the Applicants. The Applicants submit an interferometer configured to measure thickness difference of a transparent layer on a substrate as

taught by *Herchen* is not the equivalent of a detection system configured to detect test patterns disposed on a peripheral region of the photomask substrate in the present application. "In giving the claims their broadest reasonable interpretation, the interpretation utilized during examination of the application must be consistent with that which one skilled in the art would utilize". *In re American Academy of Science Tech Center*, 367 F.3d 1365. Here, a detection system configured to examine test patterns would not be interpreted by as an ordinary skilled artisan as a interferometer configured to detect film thickness. Thus, the Applicants submit that the Examiner has misinterpreted a device configured to measure a thickness difference as a device configured to detect one or more test patterns disposed on a peripheral region of a photomask substrate as claimed by the Applicants.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)(citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983). Here, *Herchen* fails to teach or suggest an endpoint detection system configured to detect one or more test patterns disposed on a peripheral region of a photomask substrate, as recited by claims 1 and 16, or a photomask substrate disposed on a substrate support member and having one or more test patterns disposed on a peripheral region, as recited by claim 16. As *Herchen* fails to teach or suggest each and every elements of the claimed invention, the Applicants submit that the present invention is patentable over *Herchen*.

Thus, Applicant submits that independent claims 1, 5, and 16 and all claims depending therefrom are patentable over *Herchen*. Accordingly, the Applicant respectfully requests the rejection be withdrawn.

B. 35 U.S.C. §102 Claims 1-2, 4-14, 16, 18 and 21-22

Claims 1-2, 4-14, 16, 18 and 21-22 stand rejected under 35 U.S.C. §102(b) as being anticipated or under 35 U.S.C. §103(a) as unpatentable over Japan Patent No. 2001217227 to *Yohei Yamazawa, et al.* (hereinafter referred to as "*Yamazawa*"). In

response, the Applicants have amended claim 16 to more clearly recite aspects of the invention.

Independent claims 1, 5 and 16 recite elements not taught or suggested by *Yamazawa*. *Yamazawa* teaches measuring thickness difference of a gate oxide layer disposed on a substrate by an endpoint detection system to predict an endpoint of an etch process. As stated above, a device for measuring thickness difference of a gate oxide layer as taught by *Yamazawa* is not a device for detecting one or more test patterns disposed on a peripheral region of the photomask substrate, as claimed by the Applicants. Moreover, *Yamazawa* also fails to teach or suggest a photomask substrate having one or more test patterns disposed on a peripheral region. As such, a *prima facie* of anticipation has not been established as *Yamazawa* fails to teach or suggest each and every element the claimed invention.

Thus, Applicant submits that independent claims 1, 5, and 16 and all claims depending therefrom are patentable over *Yamazawa*. Accordingly, the Applicant respectfully requests the rejection be withdrawn.

C. 35 U.S.C. §103 Claims 3, 17 and 19-20

Claims 1-2, 4-14, 16, 18 and 21-22 stand rejected under 35 U.S.C. §103(a) as unpatentable over *Herchen* in view of Japan Patent No. 11058225 to *Mihashi, et al.* (hereinafter referred to as "*Mihashi*"). In response, the Applicants have amended claim 16 to more clearly recite aspects of the invention.

Independent claims 1 and 16 recite elements not taught or suggested by the combination of *Herchen* and *Mihashi*. The teaching of *Herchen* has been discussed above. *Mihashi* teaches using an endpoint detector to measure thickness difference of a layer in a chemical mechanical process. However, *Mihashi* fails to teach or suggest a modification to *Herchen* that would yield an endpoint detection system configured to detect one or more test patterns disposed on a peripheral region of the photomask substrate, as recited by claims 1 and 16. Moreover, *Mihashi* also fails to teach or suggest a photomask substrate having one or more test patterns disposed on a peripheral region. As such, a *prima facie* case of obviousness has not been established as the references fail to teach or suggest all the claimed elements.

Thus, Applicant submits that independent claims 1 and 16 and all claims depending therefrom are patentable over the combination of *Herchen* and *Mihashi*. Accordingly, the Applicant respectfully requests the rejection be withdrawn.

CONCLUSION

Applicants submit that all claims are in condition for allowance. Accordingly, the Applicants respectfully request reconsideration of this application and its early allowance.

If the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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